

### REMARKS

Claims 1-11 and 14-22 are pending in the instant application. Claims 4-11 and 14-22 are withdrawn from consideration, and claims 1-3 are rejected. Upon entry of the instant Amendment, claims 1-2, 4-11 and 14-22 will be pending.

#### **Regarding Restriction Requirement and Election of Species Requirement**

The Examiner indicates that restriction and election were proper and only examines claims 1-3 on the merits.

#### **Objection to the Specification**

The Examiner objects to the specification as not including an "Abstract" that it one paragraph long and on a separate page. Applicants herein supply this formality requirement. No issue of new matter arises as paragraph [0001] as originally filed is supplied at the end of the specification and clearly labeled as the intended "Abstract."

#### **Rejection under 35 U.S.C. 102**

The Examiner rejects claims 1 and 2 as allegedly anticipated by Belford *et al.*, *J. Biol. Chem.*, 1993, 268:2444-2450. According to the Examiner, Belford *et al.* teach a method of determining the interaction of a fungal tRNA ligase enzyme (TRL1) with compounds. Fungal TRL1 is provided as a fusion protein between a full length yeast tRNA ligase with the carboxyl terminus of the *E. coli* DHFR, candidate compounds are nucleoside triphosphate, TRL1 is incubated with the compounds and interaction of the compounds with TRL1 is determined by splicing reactions.

In the interest of advancing prosecution and further distinguishing the instant invention over the prior art, Applicants specify that the TRL1 protein comes from the species *Candida albicans*. No issue of new matter arises by way of the amendment to claim 1 as support may be found in the specification at paragraph [0014] and in claim 3, now canceled as duplicative of claim 1. Belford *et al.* do not teach or suggest TRL1 from *Candida albicans*.

**Rejection under 35 U.S.C. 103**

The Examiner rejects claims 1-3 as allegedly obvious over Belford *et al.*, *J. Biol. Chem.*, 1993, 268:2444-2450 and Baymiller *et al.*, *Gene*, 1994, 142:129-134 in view of Spaltmann *et al.*, *Drug Discovery Today*, 1999, 4:14-26. The Examiner admits that Belford *et al.* do not teach that the TRL1 is from *Candida* or *Aspergillus*. The Examiner contends that Baymiller *et al.* teach isolating and sequencing the tRNA ligase-encoding gene of *Candida albicans* and suggest that this enzyme provides a good target for antifungal drug research (citing page 130, left column, end of 1<sup>st</sup> full paragraph). The Examiner adds that Spaltmann *et al.* teach that *Candida albicans* is a major human pathogenic fungi.

The Examiner alleges that it would have been obvious to use TRL1 from *Candida* in the method of Belford *et al.* to screen for candidate antifungal compounds that impair TRL1 function because *Candida albicans* is a major human pathogenic fungi. Alleged motivation to use *Candida albicans* comes from Baymiller *et al.* suggesting that *Candida* TRL1 provides a good target for antifungal drug research. Further, from the teachings of Belford *et al.* and Baymiller *et al.*, the Examiner says that there would have been a reasonable expectation of success.

As the Examiner knows, in order to establish a proper *prima facie* case of obviousness, the Examiner must establish that there is a suggestion or motivation to modify the references or to combine the reference teachings; there must be a reasonable expectation of success; and the references or combination of references must teach or suggest all of the claim limitations (*see, e.g.*, MPEP § 2142). The teachings or suggestions to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cr. 1991)). The arguments advanced by the Examiner fail to meet all of these criteria. First, there is no suggestion or motivation to modify the references or to combine the reference teachings. Second, there is no reasonable expectation of success.

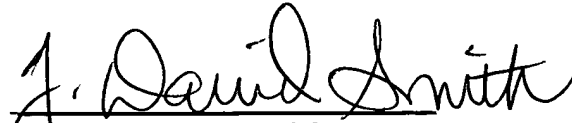
Baymiller *et al.* teach only that *Candida albicans* possesses a structural gene (TRL1) that is a homologue of *Saccharomyces* RLG1, a tRNA ligase that is essential only in *Saccharomyces*.

(See, page 130, left column, end of first full paragraph). One of ordinary skill in the art understands that just because a gene is essential in one yeast species does not mean that it is essential in *Candida albicans*. *Candida albicans* is a diploid organism that is not capable of mating under normal circumstances. Moreover, *Candida albicans* has few functional transposable elements. (See, paragraph [0009] of the instant specification). Thus, one of ordinary skill in the art understands that genome-wide identification of essential genes is not generally applicable to *Candida albicans*. It simply cannot be automatically assumed that genes essential in *Saccharomyces cerevisiae* are also essential in *Candida albicans*. Indeed, as late as 2003 the literature demonstrates that it was still well accepted by those of ordinary skill in the art that the essential role of *Saccharomyces cerevisiae* genes cannot be reliably extrapolated directly to *Candida albicans* nor vice versa. (See, Roemer *et al.*, 2003, *Mol. Microbiol.* 50(1):167-181, at page 167, second column, first paragraph, a copy of which is submitted herewith). Consequently, one of ordinary skill in the art would not find a motivation to modify the references by substituting a *Candida albicans* TRL1, and one of ordinary skill in the art would not have found a reasonable expectation of success in using a *Candida albicans* TRL1 in the instantly claimed methods prior to the instant invention.

**CONCLUSION**

It is believed that all of the claims are patentable and early notification as such is earnestly solicited. If any issues may be resolved by way of telephone, the Examiner is invited to call the undersigned at the telephone number indicated below.

Respectfully submitted,

A handwritten signature in black ink, reading "J. David Smith". The signature is written in a cursive style with a large, stylized "J" and "S".

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